WHAT IS CLAIMED IS:

1. An orthogonal complex spreading method for a multichannel, comprising the steps of:

complex-summing $\alpha_{n1}W_{M,n1}X_{n1}$ which is obtained by multiplying an orthogonal Hadamard sequence $W_{M,n1}$ by a first data X_{n1} and gain α_{n1} of a n-th block and $\alpha_{n2}W_{M,n2}X_{n2}$ which is obtained by multiplying an orthogonal Hadamard sequence $W_{M,n2}$ by a second data X_{n2} and gain α_{n2} of a n-th block;

complex-multiplying $\alpha_{n1}W_{M,n1}X_{n1}+j\alpha_{n2}W_{M,n2}X_{n2}$ which is summed in the complex type and $W_{M,n3}+jW_{M,n4}$ of the complex type using a complex multiplier and outputting as an in-phase information and quadrature phase information; and

summing only in-phase information outputted from a plurality of blocks and only quadrature phase information outputted therefrom and spreading the same using a spreading code.

2. The method of claim 1, wherein said spreading code spreads to an I channel and Q channel using the in-phase information and the quadrature phase information as one spreading code.

3. The method of claim 1, wherein said spreading code is spread to an I channel signal by multiplying an in-phase

information and an quadrature phase information by a first spreading code, multiplying the in-phase information and the quadrature phase information by a second spreading code and forming I channel signal by subtracting the quadrature phase information to which the second spreading code is multiplied from the in-phase information to which the first spreading code is multiplied and forming Q channel signal by summing the quadrature phase information to which the first spreading code is multiplied and the in-phase information to which the second spreading code is multiplied.

4. The method of claim 1, wherein said orthogonal Hadamard sequence uses a Walsh code.

5. The method of claim 1, wherein in said step for multiplying the orthogonal Hadamard sequence, a sequence vector of a k-th column or row is set to W_{k-1} in a MxM (M=4) Hadamard matrix, and in the case of one block, $\alpha_{11}W_0X_{11}+j\alpha_{12}W_2X_{12}$ and W_0+jW_1 is complex-multiplied based on $W_{M,11}=W_0$, $W_{M,12}=W_2$, and $W_{M,13}=W_0$, $W_{M,14}=W_1$.

6. The method of claim 5, wherein $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$ and W_0+jW_1 are complex-multiplied based on M=8 and $W_{M,12}=W_4$.

7. The method of claim 1, wherein in said step for

multiplying the orthogonal Hadamard sequence, a sequence vector of a k-th column or row is set to a W_{k-1} in a MxM (M is a natural number) Hadamard matrix, and $\alpha_{n1}W_0X_{n1}+j\alpha_{n2}W_{2p}X_{n2}$ and $W_{2n-2}+jW_{2n-1}$ are complex-multiplied based on $W_{M,n1}=W_0$, $W_{M,n2}=W_{2p}$ (where p represents a predetermined number in a range from 0 to (M/2)-1) and $W_{M,n3}=W_{2n-2}$, $W_{M,n4}=W_{2n-1}$ (where n represents a n-th block number).

8. The method of claim 1, wherein in the case of two blocks, a resultant value which is obtaining by setting a sequence vector of a k-th column or row to a W_{k-1} in a MxM (M=8) Hadamard matrix and complex-multiplying $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$ and W_0+jW_1 based on $W_{M,11}=W_0$, $W_{M,12}=W_4$, $W_{M,13}=W_0$, $W_{M,14}=W_1$, and a resultant value which is obtained by complex-multiplying $\alpha_{21}W_0X_{21}+j\alpha_{22}W_4X_{22}$ and W_2+jW_3 based on $W_{M,21}=W_0$, $W_{M,22}=W_4$, $W_{M,23}=W_2$, $W_{M,24}=W_3$ are summed.

9. The method of claim 8, wherein a resultant value which is obtained by complex-multiplying $\alpha_{11}W_0X_{11}+j\alpha_{12}W_6X_{12}$ and W_0+jW_1 based on $W_{M,12}=W_6$, and $W_{M,22}=W_6$, and $\alpha_{21}W_0X_{21}+j\alpha_{22}W_6X_{22}$ and W_2+jW_3 are summed.

10. An orthogonal complex spreading apparatus, comprising:

a plurality of complex multiplication blocks for

distributing the data of the multichannel and complex signal $\alpha_{n1}W_{M,n1}X_{n1}+j\alpha_{n2}W_{M,n2}X_{n2}$, of which $\alpha_{n1}W_{M,n1}X_{n1}$ which is obtained by multiplying the orthogonal Hadamard sequence $W_{M,n1}$ with the first data X_{n1} of the n-th block and the gain α_{n1} and $\alpha_{n2}W_{M,n2}X_{n2}$ which is obtained by multiplying the orthogonal Hadamard sequence $W_{M,n2}$ with the second data X_{n2} of the n-th block and the gain α_{n2} are constituents, are complex-multiplied by $W_{M,n3}+jW_{M,n4}$ using the complex multiplier;

a summing unit for summing only the in-phase information outputted from each block of the plurality of the complex multiplication blocks and summing only the quadrature phase information outputted from each block of the plurality of the complex multiplicator blocks; and

a spreading unit for multiplying the in-phase information and the quadrature phase information which are summed by the summing unit by the spreading code and outputting an I channel and a Q channel.

11. The apparatus of claim 10, wherein in said spreading unit, the in-phase information and the quadrature phase information summed by the summing unit are multiplied by the first and second spreading codes, the quadrature phase information to which the second spreading code is multiplied is subtracted from the in-phase information to which the first spreading code is multiplied for thereby outputting an I

channel, and the in-phase information to which the second spreading code is summed by the quadrature phase information to which the first spreading code is multiplied for thereby outputting a Q channel.

12. The apparatus of claim 10, wherein said complex multiplication block includes:

a first multiplier for multiplying the first data X_{n1} of a corresponding block by the orthogonal Hadamard sequence $W_{M,n1}$;

a second multiplier for multiplying the output signal from the first multiplier by the gain α_{n1};

a third multiplier for multiplying the second data X_{n2} by the orthogonal Hadamard sequence $W_{M,n2}$;

a fourth multiplier for multiplying the output signal from the third multiplier by the gain α_{n2};

fifth and sixth multipliers for multiplying the output signal $\alpha_{n1}W_{M,n1}X_{n1}$ from the second multiplier and the output signal $\alpha_{n2}W_{M,n2}X_{n2}$ from the fourth multiplier by the orthogonal Hadamard sequence $W_{M,n3}$;

seventh and eighth multipliers for multiplying the output signal $\alpha_{n1}W_{M,n1}X_{n1}$ from the second multiplier and the output signal $\alpha_{n2}W_{M,n2}X_{n2}$ from the fourth multiplier by the orthogonal Hadamard sequence $W_{M,n4}$;

a first adder for summing the output signal (ac) from the

fifth multiplier and the minus output signal (-bd) from the eighth multiplier and outputting an in-phase information (ac-bd); and

a second adder for summing the output signal (bc) from the sixth multiplier and the output signal (ad) from the seventh multiplier and outputting a quadrature phase information (bc+ad).

13. The apparatus of claim 10, wherein said orthogonal Hadamard sequence uses a predetermined type of the orthogonal code.

14. A permutated orthogonal complex spreading method for a multichannel, comprising the steps of:

complex-summing $\alpha_{n1}W_{M,n1}X_{n1}$ which is obtained by multiplying a predetermined orthogonal Hadamard sequence $W_{M,n1}$ by a data X_{n1} and a gain α_{n1} and $\alpha_{n2}W_{M,n2}X_{n2}$ which is obtained by multiplying the orthogonal Hadamard sequence $W_{M,n2}$ of the second block by a predetermined data X_{n2} and a gain α_{n2} in the first block during a multichannel data distribution;

summing only the in-phase information based on the output signals from a plurality of other channels from two blocks and summing only the quadrature phase information; and

complex-multiplying $\sum_{n=1}^{K}(\alpha_{n1}W_{M,n1}X_{n1} + j\alpha_{n2}W_{M,n2}X_{n2})$ which are

summed in the complex type and $W_{M,I}+jPW_{M,Q}$ which are formed of P representing a predetermined sequence or a spreading code or a predetermined integer using a complex multiplier and $W_{M,I}$ and $W_{M,Q}$ which are the orthogonal Hadamard sequences, and outputs the signal as an in-phase information and a quadrature phase information.

15. The method of claim 14, wherein said spreading code spreads the in-phase information and the quadrature phase information to an I channel and Q channel using one spreading code.

16. The method of claim 14, wherein P represents a predetermined sequence or a predetermined spreading code or a predetermined integer.

17. The method of claim 14, wherein a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM Hadamard matrix, the conditions $W_{M,I}=W_0$, $W_{M,Q}=W_{2q+1}$ (where q represents a predetermined number in a range from 0 to (M/2)-1) are obtained, and a predetermined spreading code for P is configured so that consecutive two sequences have the identical values.

18. The method of claim 14, wherein P is varied in

accordance with a communication environment and service type.

19. The method of claim 14, wherein said orthogonal Hadamard sequence uses a Walsh code.

20. The method of claim 14, wherein in said step for multiplying the orthogonal Hadamard sequences, the sequence vector of the k-th column or row is set to W_{k-1} based on the MxM (M=4) Hadamard matrix, and in the case that two data are transmitted, the conditions $W_{M,11}=W_0$, $W_{M,12}=W_2$, and $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined for thereby complex-multiplying $\alpha_{11}W_0X_{11}+j\alpha_{12}W_2X_{12}$ and W_0+jPW_1.

21. The method of claim 20, wherein said $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$ and W_0+jPW_1 are complex-multiplied based on M=8 and $W_{M,12}=W_4$.

22. The method of claim 14, wherein in said step for multiplying the orthogonal Hadamard sequence, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM Hadamard matrix, the conditions $W_{M,n1}=W_0$, $W_{M,n2}=W_{2q+1}$ (where q represents a predetermined number in a range from 0 to (M/2)-1) are obtained and the conditions $W_{M,I}=W_0$, $W_{M,Q}=W_1$ (where n represent a n-th block number) for thereby complex-multiplying $\alpha_{n1}W_0X_{n1}+j\alpha_{n2}W_{2q}X_{n2}$ and W_0+jPW_1.

23. The method of claim 14, wherein in said spreading unit, the in-phase information and the quadrature phase information summed by the summing unit are multiplied by the first and second spreading codes, the quadrature phase information to which the second spreading code is multiplied is subtracted from the in-phase information to which the first spreading code is multiplied for thereby forming an I channel, and the in-phase information to which the second spreading code is multiplied is summed by the quadrature phase information to which the first spreading code is multiplied for thereby outputting a Q channel.

24. The method of claim 14, wherein said complex multiplication block includes:

a first multiplier for multiplying the first data X_{n1} of a corresponding block by the gain α_{n1};

a second multiplier for multiplying the output signal from the first multiplier by the orthogonal Hadamard sequence $W_{M,n1}$;

a third multiplier for multiplying the second data X_{n2} by the gain α_{n2};

a fourth multiplier for multiplying the output signal from the third multiplier by the orthogonal Hadamard sequence $W_{M,n2}$;

fifth and sixth multipliers for multiplying the output

signal $\alpha_{n1}W_{M,n1}X_{n1}$ from the second multiplier and the output signal $\alpha_{n2}W_{M,n2}X_{n2}$ from the fourth multiplier by the orthogonal Hadamard sequence $W_{M,I}$;

seventh and eighth multipliers for multiplying the output signal $\alpha_{n1}W_{M,n1}X_{n1}$ from the second multiplier and the output signal $\alpha_{n2}W_{M,n2}X_{n2}$ from the fourth multiplier by the orthogonal Hadamard sequence $W_{M,Q}$;

a first adder for summing the output signal (ac) from the fifth multiplier and the minus output signal (-bd) from the eighth multiplier and outputting an in-phase information (ac-bd); and

a second adder for summing the output signal (bc) from the sixth multiplier and the output signal (ad) from the seventh multiplier and outputting a quadrature phase information (bc+ad).

25. The apparatus of claim 14, wherein a combined orthogonal Hadamard sequence is used instead the orthogonal Hadamard sequence in order to eliminate the phase dependency due to an interference occurring a multipath type of a self signal and an interference occurring by other users.

26. A permutated orthogonal complex spreading apparatus for a multichannel, comprising:

first and second Hadamard sequence multipliers for

allocating the multichannel to a predetermined number of channels, splitting the same into two groups and outputting $\alpha_{n1}W_{M,n1}X_{n1}$ which is obtained by multiplying the data X_{n1} of each channel by the gain α_{n2} and the orthogonal Hadamard sequence $W_{M,n1}$;

a first adder for outputting $\sum_{n=1}^{K}(\alpha_{n1}W_{M,n1}X_{n1})$ which is obtained by summing the output signals from the first Hadamard sequence multiplier;

a second adder for outputting $\sum_{n=1}^{K}(\alpha_{n2}W_{M,n2}X_{n2})$ which is obtained by summing the output signals from the second Hadamard sequence multiplier;

a complex multiplier for receiving the output signal from the first adder and the output signal from the second adder in the complex form of $\sum_{n=1}^{K}(\alpha_{n1}W_{M,n1}X_{n1}+j\alpha_{n2}W_{M,n2}X_{n2})$ and complex-multiplying $W_{M,I}+jPW_{M,Q}$ which consist of the orthogonal Hadamard code $W_{M,I}$, and the permutated orthogonal Hadamard code $PW_{M,Q}$ that $W_{M,Q}$ and a predetermined sequence P are complex-multiplied;

a spreading unit for multiplying the output signal from the complex multiplier by the spreading code;

a filter for filtering the output signal from the spreading unit; and

a modulator for multiplying and modulating the modulation

carrier wave, summing the in-phase signal and the quadrature phase signal and outputting a modulation signal of the real number.

27. The method of claim 26, wherein in the case of three channels, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM (M=8) Hadamard matrix, and $W_{M,11}=W_0$, $W_{M,12}=W_4$, $W_{M,21}=W_2$, and $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined, and the summed value which is obtained by summing $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$, and $\alpha_{21}W_2X_{21}$ is complex-multiplied by W_0+jPW_1.

28. The method of claim 26, wherein in the case of three channels, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM Hadamard matrix, and $W_{M,11}=W_0$, $W_{M,12}=W_2$, and $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined based on M=8, and the summed value which is obtained by summing $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$ and $\alpha_{21}W_8X_{21}$ is complex-multiplied by W_0+jPW_1 based on M=16.

29. The method of claim 26, wherein in the case of four channels, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM (M=8) Hadamard matrix, and $W_{M,11}=W_0$, $W_{M,12}=W_4$, $W_{M,21}=W_2$, $W_{M,31}=W_6$, and $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined, and the summed value which is obtained by summing $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$, $\alpha_{21}W_2X_{21}$ and $\alpha_{31}W_6X_{31}$ is complex-multiplied by W_0+jPW_1.

30. The method of claim 26, wherein said in the case of four channels, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM Hadamard matrix, and $W_{M,11}=W_0$, $W_{M,12}=W_4$, $W_{M,31}=W_2$, $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined based on M=8 and $W_{M,21}=W_8$ is determined based on M=16, and the summed value which is obtained by summing $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$, $\alpha_{21}W_8X_{21}$ and $\alpha_{31}W_2X_{31}$ is complex-multiplied by W_0+jPW_1.

31. The method of claim 26, wherein in the case of five channels, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM (M=8) Hadamard matrix, and $W_{M,11}=W_0$, $W_{M,12}=W_4$, $W_{M,21}=W_2$, $W_{M,31}=W_6$, $W_{M,22}=W_1$, and $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined, and the summed value which is obtained by summing $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$, $\alpha_{21}W_8X_{21}+j\alpha_{22}W_1X_{22}$ and $\alpha_{31}W_6X_{31}$ is complex-multiplied by W_0+jPW_1.

32. The method of claim 26, wherein in the case of five channels, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM (M=8) Hadamard matrix, and $W_{M,11}=W_0$, $W_{M,12}=W_4$, $W_{M,21}=W_2$, $W_{M,31}=W_6$, $W_{M,22}=W_3$, and $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined, and the summed value which is obtained by summing $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$, $\alpha_{21}W_8X_{21}+j\alpha_{22}W_3X_{22}$ and $\alpha_{31}W_6X_{31}$ is complex-multiplied by W_0+jPW_1.

33. The method of claim 26, wherein in the case of five

channels, a sequence vector of the k-th column or row is set to W_{k-1} based on the MxM Hadamard matrix, and $W_{M,11}=W_0$, $W_{M,12}=W_4$, $W_{M,31}=W_2$, $W_{M,22}=W_6$, and $W_{M,I}=W_0$, $W_{M,Q}=W_1$ are determined based on M=8 and $W_{M,21}=W_8$ is determined based on M=16, and the summed value which is obtained by summing $\alpha_{11}W_0X_{11}+j\alpha_{12}W_4X_{12}$, $\alpha_{21}W_8X_{21}+j\alpha_{22}W_6X_{22}$ and $\alpha_{31}W_2X_{31}$ is complex-multiplied W_0+jPW_1.

34. The method of claim 29, wherein a gain α_{n1} and a gain α_{n2} are the identical gain in order to remove the phase dependency by an interference occurring in a multipath of a self signal and an interference occurring by other users.

35. The method of claim 29, wherein a gain α_{12} and a gain α_{31} are the identical gain in order to remove the phase dependency by an interference occurring in a multipath of a self signal and an interference occurring by other users.

36. The method of claim 26, wherein a combined orthogonal Hadamard sequence is used instead the orthogonal Hadamard sequence in order to eliminate the phase dependency due to an interference occurring a multipath type of a self signal and an interference occurring by other users.

37. The method of claim 36, wherein in the case of two channel, a sequence vector of the k-th column or row of the

MxM (M=8) Hadamard matrix is set to W_{k-1}, and a sequence vector of the m-th column or row is set to W_m, the first M/2 or the last M/2 is obtained from the vector W_{k-1}, and the last M/2 or the first M/2 is obtained from W_{m-1}, so that the combined orthogonal Hadamard vector is set to $W_{k-1//m-1}$, and the summed value of $\alpha_{11}W_0X_{11}+j\alpha_{12}W_{4//1}X_{12}$ and $W_0+jPW_{1//4}$ are complex-multiplied based on $W_{M,11}=W_0$, $W_{M,12}=W_{4//1}$, and $W_{M,I}=W_0$, $W_{M,Q}=W_{1//4}$.

38. The method of claim 36, wherein in the case of three channels, a sequence vector of the k-th column or row of the MxM (M=8) Hadamard matrix is set to W_{k-1}, and a sequence vector of the m-th column or row is set to W_m, the first M/2 or the last M/2 is obtained from the vector W_{k-1}, and the last M/2 or the first M/2 is obtained from W_{m-1}, so that the combined orthogonal Hadamard vector is set to $W_{k-1//m-1}$, and the summed value of $\alpha_{11}W_0X_{11}+j\alpha_{12}W_{4//1}X_{12}$ and $\alpha_{21}W_2X_{21}$ and $W_0+jPW_{1//4}$ are complex-multiplied based on $W_{M,11}=W_0$, $W_{M,12}=W_{4//1}$, $W_{M,21}=W_2$, and $W_{M,I}=W_0$, $W_{M,Q}=W_{1//4}$.

39. The method of claim 36, wherein in the case of two channels, a sequence vector of the k-th column or row of the MxM (M=8) Hadamard vector matrix is set to W_{k-1}, and a sequence vector of the m-th column or row is set to W_m, the first M/2 or the last M/2 is obtained from the vector W_{k-1}, and the last M/2 or the first M/2 is obtained from W_{m-1}, so that the

combined orthogonal Hadamard vector is set to $W_{k-1//m-1}$, and the summed value of $\alpha_{11}W_0X_{11}+j\alpha_{12}W_{2//1}X_{12}$ and $W_0+jPW_{1//2}$ are complex-multiplied based on $W_{M,11}=W_0$, $W_{M,12}=W_{2//1}$, and $W_{M,I}=W_0$, $W_{M,Q}=W_{1//2}$.

40. The method of claim 36, wherein in the case of three channels, a sequence vector of the k-th column or row of the MxM (M=8) Hadamard vector matrix is set to W_{k-1}, and a sequence vector of the m-th column or row is set to W_m, the first M/2 or the last M/2 is obtained from the vector W_{k-1}, and the last M/2 or the first M/2 is obtained from W_{m-1}, so that the combined orthogonal Hadamard vector is set to $W_{k-1//m-1}$, and the summed value of $\alpha_{11}W_0X_{11}+j\alpha_{12}W_{2//1}X_{12}$ and $\alpha_{21}W_4X_{21}$ and $W_0+jPW_{1//2}$ are complex-multiplied based on $W_{M,11}=W_0$, $W_{M,12}=W_{2//1}$, $W_{M,21}=W_4$, and $W_{M,I}=W_0$, $W_{M,Q}=W_{1//2}$.